

Appln No. 10/575,699
Amdt date March 23, 2009
Reply to Office action of December 23, 2008

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) ~~Implant~~ An implant for temporary or permanent introduction into a human or animal body of at least one biocompatible material with a shape that is oriented to fulfill one or more first functions, ~~characterized by the fact that~~ wherein the shape has one or more areas ~~(1,18)~~ in which, as second function, elasticity or mobility is provided, with the implant having material recesses ~~(7,19)~~ in the area or areas which serve to locally reduce rigidity and are provided in addition to the shape caused by the first functions.

2. (Currently Amended) ~~Implant~~ The implant of claim 1, ~~characterized by the fact that~~ wherein the implant or at least parts thereof with areas of first and second functions are formed integrally from one material.

3. (Currently Amended) ~~Implant~~ An implant for temporary or permanent introduction into a human or animal body of at least one biocompatible material with a shape that is oriented to fulfill one or more first functions and at least in one area a second function as regards elasticity or mobility, ~~characterized by the fact that~~ wherein the implant or at least parts thereof, which comprise the areas with and without elasticity or movement functions ~~(second function)~~, are formed integrally from one material and the area ~~(1,18)~~ of second function has material recesses ~~(7,19)~~ that serve to locally reduce rigidity.

4. (Currently Amended) ~~Implant~~ The implant of claim 1, ~~characterized by the fact that~~ wherein in the area or areas, the elasticity or movement function ~~(second function)~~ is provided in addition to one or more first functions.

5. (Currently Amended) ~~Implant~~ The implant of claim 1, ~~characterized by the fact that~~ wherein the area or areas are formed with material recesses as at least one of compression zones, ~~[[or]]~~ expansion zones, torsion zones and ~~[[or]]~~ as articulated joints, ~~which are especially integrally connected with other functional areas.~~

6. (Currently Amended) ~~Implant~~ The implant of claim 1, ~~characterized by the fact that~~ wherein the biocompatible material is of a rigid, especially under the intended conditions of use, flexurally rigid material.

7. (Currently Amended) ~~Implant~~ The implant of claim 1, ~~characterized by the fact that~~ wherein the biocompatible material is selected from the group that comprises titanium and alloys thereof as well as plastics.

8. (Currently Amended) ~~Implant~~ The implant of claim 1, ~~characterized by the fact that~~ wherein the material recess (7,19) is formed as at least one of a groove-like helical recess and ~~[[or]]~~ as an open helical aperture of the wall, ~~especially in a helical shape.~~

9. (Currently Amended) ~~Implant~~ The implant of claim 1, ~~characterized by the fact that~~ wherein two material recesses are formed as at least one of a groove-like recess and ~~[[or]]~~ as an open aperture arranged twin-track helically inside each other.

10. (Currently Amended) ~~Implant~~ The implant of claim 1, ~~characterized by the fact that~~ wherein the implant comprises an implant part of a flexible material, ~~especially of an elastomer,~~ that acts together with the implant part with material recesses to achieve a flexibility such that a definitive rigidity or mobility of the overall implant can be set.

11. (Currently Amended) ~~Implant~~ The implant of claim 1, ~~characterized by the fact that~~ wherein the implant is at least one of a space holder (10) for ~~vertebrae and/or~~ intervertebral

discs with space- holder and weight-transfer function as first functions and[[/or]] a connection rod (20) for pedicle screw arrangements with supporting and connection function as first functions, with especially a system of space holders and pedicle screw connection being provided.

12. (Currently Amended) ~~Implant~~ The implant of claim 1, ~~characterized by the fact that~~ wherein the implant has a tube-like body (1) and, on the ends of the tube-like body, has means (2) for connecting to adjacent body parts or other implants or implant parts, with the material recesses in the tube-like body being provided, such that the implant is compressible and extensible in the axial direction and, with reference to the means of connection (2) provided on the ends is bendable about a radial turning axis (13) and torsionable about an axial rotating axis.

13. (Currently Amended) ~~Implant~~ The implant of claim 12 ~~characterized by the fact that~~ further comprising at least one of a sleeve comprising an elastic biocompatible material surrounding the tube-like body (1) is surrounded by a sleeve consisting of an elastic biocompatible material or/and is provided with a core consisting of comprising an elastic biocompatible material.

14. (Currently Amended) ~~Implant~~ The implant of claim 13, ~~characterized by the fact that~~ wherein at least one of the sleeve and[[/or]] the core are held by end plates arranged on the tube-like body ~~integrally and/or detachably, especially by a screw or thread connection.~~

15. (Currently Amended) ~~Implant~~ The implant of claim 13, ~~characterized by the fact that~~ wherein the elastic material is an elastomer.

16. (Currently Amended) ~~Implant~~ The implant of claim 12, characterized ~~by the fact that the implant and especially~~ wherein the tube-like body, expressed in terms of its longitudinal direction, is elastically extensible or compressible by 0.5 to 20%, ~~especially 1 to 15%.~~

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17. (Currently Amended) ~~Implant~~ The implant of claim 12, ~~characterized by the fact that the implant and especially wherein~~ the tube-like body (1) is elastically bendable about a radial axis (3), such that the means of connection (2) provided at the ends can pivot by approximately 0.5 to 10°, ~~especially 1 to 6°~~ from the longitudinal axis (12) of the tube-like body.

18. (Currently Amended) ~~Implant~~ The implant of claim 12, ~~characterized by the fact that the implant and especially wherein~~ the tube-like body is torsionable about the axial axis by 0.5 to 10°, ~~especially 1 to 6°~~.

19. (Withdrawn) Method for producing an implant from biocompatible material, especially in accordance with claim 1, from a body with a wall around an axis, characterized by the fact that along the wall around the axis, at least one material recess, especially a helical material recess, is milled in the form of a groove-like or slot-like recess mechanically, chemically or in any other way, especially by laser treatment.

20. (Withdrawn) Method of claim 19, characterized by the fact that two material recesses are milled as groove-like or slot-shaped recesses, such that they are arranged twin-track helically inside each other coaxial to the axis.

21. (Withdrawn) Method of claim 19, characterized by the fact that the body is a solid body, especially a solid cylinder, in which, before or after milling of the material recess (es), a bore hole is incorporated along the axis to generate a hollow body, with especially the remaining wall being narrower than the depth of the groove-shaped recess.

22. (Withdrawn) Implant of claim 19, characterized by the fact that the body is a pipe or a beaker.

23. (New) An implant for temporary or permanent introduction into a human or animal body, the implant comprising:

a first bone anchoring element for anchoring to a bone or vertebrae;

a second bone anchoring element for anchoring to a bone or vertebrae; and

a connection element configured to connect the first bone anchoring element to the second bone anchoring element, the connection element comprising:

a first rigid part configured to connect to the first bone anchoring element, the first rigid part having at least one threaded end;

a second rigid part configured to connect to the second bone anchoring element, the second rigid part having at least one threaded end;

a flexible part having a first threaded end and a second threaded end defining a length of the flexible part and comprising a tubular body having a helical recess; and

wherein the first threaded end of the flexible part is configured to connect to the at least one threaded end of the first rigid part, and wherein the second threaded end of the flexible part is configured to connect to the at least one threaded end of the second rigid part.